

## A survey into the distribution of the stick insects of Britain.

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### Key words

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There are no native stick insects in Britain, but no less than three alien species are now thriving here: The Prickly Stick Insect, *Acanthoxyla geisovii* (Kaup), The Unarmed Stick Insect, *Acanthoxyla inermis* Salmon, and the Smooth Stick Insect, *Clitarchus hookeri* (White). Coincidentally, all are from New Zealand. The principal colonies are found in Cornwall, but there are also a few sites in South Devon, and in South West Ireland.

In 1992, after finding a stick insect in my garden, I undertook a survey into the local population of the Unarmed Stick Insect, the results of which were published in *Phasmid Studies* (Lee, 1993). The following year, I set myself the task of researching into stick insect populations further afield. Initially, the survey was restricted to Cornwall, but, thanks to some national publicity, it covered all the UK, and even a report from Eire.

As anyone who has ever undertaken field research will readily attest, looking for these masters of camouflage in the wild can be extremely frustrating. A far easier way to locate them is to contact those lucky people who have found them in their garden, and this was my approach. Starting with articles requesting sightings in local Cornish newspapers, interest was raised at the West Country daily paper, the *Western Morning News*, which ran a front page story with picture. This led to an article in *BBC Wildlife* magazine, and then national radio, on Radio 4's *Natural History Programme*. The most recent features have been on Westcountry TV's *Wild West Country*, and my local radio station, Radio Cornwall. All this publicity was remarkably successful, with over 80 sightings. These confirmed the recent occurrence at nearly all known locations, identified many new sites, and more than doubled the number of existing UK stick insect reports.

The story of the "British" stick insects is fascinating. The first insect to be recorded was the Prickly Stick Insect, located in Paignton, Devon in 1908, and Tresco, Isles of Scilly in 1943. The Scilly colony may be as old as the Paignton one, since a consignment of New Zealand plants was imported onto Tresco in 1907, and some of these were sent to Paignton the same year. The next species to arrive was the Unarmed Stick Insect which was certainly in Treseder's Truro Nursery in the 1920s, and may have been there somewhat earlier. The Smooth Stick Insect was first recorded on Tresco in the 1940s.

They arrived here on New Zealand plants, most likely as eggs in the soil. There were probably several importations. Apart from those at Tresco and Treseder's, Falmouth insects were traced to an import by Scott's at Merriot, Somerset in the 1970s, where insects were later seen in the nursery. Since those early arrivals, they have now spread throughout the west country, but are still very localised, often restricted to just a few adjacent gardens or streets.

How have flightless insects managed to spread so far? In almost every case, this has been with human help. Their original mode of transport from New Zealand to England by hitching a lift on plants works equally well within the UK. The Victorian founders of Treseder's were responsible for many new plant introductions, particularly from Australasia. Until its closure in the 1980s, this was one of Cornwall's premier nurseries and their plants are found in many west country gardens, both large and small. Several of the colonies seem to have originated via plants from Treseder's nursery. There are undoubtedly others awaiting discovery.

Children are fascinated by these insects and any encountered in the wild are often taken home, which can readily lead to new colonies. This may explain several small colonies near to known sites, and the discrete colonies found in different parts of large towns.

1982 saw a further boost to the Unarmed Stick Insect population, as large numbers of nymphs were distributed to schools and other interested parties throughout the county. These nymphs were raised by a butterfly breeder in Penryn from insects collected in Falmouth. Discarded school insects and eggs have led to many new colonies. My local insects originated this way, and several other colonies date from this time. The only species not to have spread is the Smooth Stick Insect, which is still known only on Tresco, the only colony outside New Zealand.

One unexpected result of the survey has shown that the colour forms exhibited by our insects differ from those in their native New Zealand. All stick insects can be either green or brown, with hatchling nymphs seeming to be all green, and a varying percentage turning brown at moulting. In my local survey, there was an unexpectedly wide variety of brown colour forms, light straw, mahogany red, brown with purple blotches, and all shades in between. After sending colour photos to Professor John Salmon, the New Zealand authority on stick insects, I was very surprised when he confirmed the brown form in New Zealand is always light straw. Further, our mahogany red forms can exhibit rapid colour change, varying from red to pale in half an hour. Professor Salmon has never recorded this in over 40 years of research.

Why the translocation has led to this variation is not certain. Research by the French insect physiologist Marie Raabe on the Laboratory Stick Insect showed that variations in humidity and light levels on early instar nymphs affect the percentages of brown colour forms in adults (Raabe, 1983). Perhaps our moister climate is causing the variation. The differing foodplants may also be working on the insect's hormones. In Port Isaac I have only found mahogany red forms on roses, where they were a perfect match for the autumn stems, and dark straw on bramble where they were almost invisible on the old stems.

### **The survey results**

The following comprehensive list of sites includes both those for which survey reports were received, and those sites appearing in literature, but for which no reports were received. For each site, I have stated the species present, where confirmed (or the most likely, if not), and the earliest record for the location. Where the origin of the colony is not known, I have suggested the most likely source.

The methodology used to get these records is an essentially random process, with the response depending, amongst other things, on the circulation area of the media used to request sightings, the number of gardens within that area which hold stick insects, and the likelihood of a finder bothering to act on the request. To increase the last factor, no locations were mentioned in any of the articles, so people at known sites would be as likely to respond as others. In most locations the reports were clustered within a small area, typically only a few hundred metres across. In view of this random process, such clustering is indicative of a very localised population. In only a few sites were reports spread out, suggesting a more widespread colony.

Many sightings were received of stick insects outside their normal range. In most reports, they spoke of once only sightings. In the absence of any suggestion of insects seen over a period of some years, or several reports from one location, I have treated them as discarded Laboratory Sticks, or other sticks in culture. In some of these cases the species was confirmed, and showed

they were undoubtedly discarded insects from local collectors. Other knowledge may come to light for these one-off reports, so I have listed these separately.

**(a) Cornwall**

**ANGARRACK (SW5838):** One report in 1993, confirming *A. geisovii* present in just one garden. Also present in 1994, and into 1995. They originated from a spillage of eggs obtained from St Mawes in 1989. It is possible that a further New Zealand species, *Acanthoxyla prasina* (Westwood), is also present, as the spillage may have contained eggs obtained from a culture kept by a St Mawes enthusiast. One previous report for 1992 (Haes, 1993).

**BLISLAND SCHOOL (SX1072):** No survey reports. One previous report in 1992, from the school grounds (Lee, 1993). Species present not confirmed, but if, as seems likely, it is *A. inermis*, this undoubtedly came from the Penryn distribution to Cornish schools.

**BUDOCK VEAN (SW7527):** One survey report in 1993. Two previous reports, the earliest one, in 1990, was recorded by Brock (1991), and the other also by Brock (pers. comm.). All reports are only a few hundred metres apart. In Brock (1991) the species is reported as *A. geisovii*, as advised to Paul Brock by the Cornish Biological Records Unit (CBRU) in a letter received shortly before publication. The record held at CBRU however states it was *A. inermis*. The one survey report was from that same garden, but the owners did not look closely at the insects and were unable to confirm the species. The other Budock Vean report spoke of a nymph of *A. inermis*. In my opinion, all the insects are likely to be *A. inermis*. This location is very close to Helford Passage (*q.v.*) and the insects could well have originated by natural spread from there.

**FALMOUTH (SW7832, SW7931, SW7933, SW8032, SW8033):** Insects are widespread in Falmouth, with twelve survey reports throughout the town in 1993 and 1994. The earliest report, in 1981, was in the *West Briton* newspaper (West Briton, 1981b), and there are seven other records in print up to 1992. The species present was confirmed as *A. inermis* by Paul Brock in 1985 (Brock, 1987). A CBRU report in 1992 is shown as *A. geisovii*, but this seems in error. There is likely to have been more than one introduction. A Banksian Rose on which the 1981 insects were found was traced to an import by a Somerset nursery in the mid 1970s, and insects were subsequently found at that nursery (Brock, 1987). Insects have also been found in the Falmouth garden of Neil Treseder, the 84 year old director of the former Truro nursery. He remembers seeing stick insects in the nursery when he was a lad in the 1920s, and his garden, not surprisingly, has plants from the nursery.

There are several discrete colonies in Falmouth. Half of the Falmouth reports are from an area around the 1981 colony, five from north Falmouth, three from a close in west Falmouth, and two others. These separate colonies could well have originated by children finding insects at the known sites and taking them home for subsequent release.

**FEOCK (SW8238):** Two survey reports in 1993, at one of which the insects had been seen on a patch of Dahlias for "many years", and in the other they were first seen about 15 years ago. Both reports were only a few hundred metres apart. There is one previous report from 1987 (West Briton, 1987). Regarding the species present, the photo in the 1987 newspaper article is clearly *A. geisovii*. However, in one of the survey report gardens, after comparing an actual insect with photographs of the three "British" species, the gardener confirmed it was *A. inermis*, a new location for this species. The origin of *A. inermis* may well have come via Treseder's nursery, as it was reported that the garden was laid out 20-25 years ago, principally with Treseder's plants.



The origin of *A. geisovii* is much more of a mystery, as *A. geisovii* has only been confirmed in Cornwall at Tresco, St Mawes, and at nearby St Just-in-Roseland and Veryan. The newspaper photo is totally convincing, and, from the report, was clearly of the insects found there. After local research, no trace could be found of the owner of that 1987 garden, who may have moved away. Perhaps the colony originated from plants transferred from St Mawes, or another known location. It is to be hoped that this *A. geisovii* colony still persists in small numbers.

GLENDURGAN (SW7727): A new location. One August 1994 report. The species present is confirmed as *A. inermis* from a clear photo supplied with the report. As with the Budock Vean (*q.v.*) site, this colony may have originated by natural spread from the Helford Passage (*q.v.*) colony, although Glendurgan was itself laid out with many New Zealand plants a very long time ago, and some came from Treseder's nursery. As the gardeners have never reported insects before, the likelihood of an early colony remaining undetected does seem remote, but not impossible.

GREAT WORK (SW5930): One 1993 report via Paul Brock, and also recorded in PSG Newsletter (Harman, 1993) as "Helston". Both *A. geisovii* and *A. inermis* have been present in one garden since about 1985, having originated from a spillage of eggs some years ago.

HELFDOR PASSAGE (SW7527, SW7626, SW7627): Two survey reports in 1993 and 1994. Three previous reports, the earliest in 1969 (West Briton, 1969). The five reports are well spaced out, and the colony is probably widespread in this sparsely populated area. The presence of *A. inermis* was confirmed by field research in 1987 (Brock 1991). Although this location has been recorded as a site for *A. geisovii* since 1981 (West Briton, 1981a), and in subsequent literature, I think this is in error. The suggestion of *A. geisovii* stems from a clear photo in West Briton (1969). That newspaper report went on to give an explanation from Victor Heath of Riviera Garden, St Mawes (*q.v.*) as to how the insects may have turned up there on plants supplied by him to a customer in Helford Passage. The actual sighting of the 1969 insect was in the previous week's paper, and the photo may have been of one of Mr Heath's own *A. geisovii* insects. In 1969, no records of any Cornish mainland colonies of insects had appeared in print, so Mr Heath may have reasonably concluded that the insect came from his St Mawes stock. The sale of some of his plants to a client in Helford Passage would have made his conclusion seem the more tenable. It is now known that the *A. inermis* colony may well have been present since the 1920s, originating from plants supplied by Treseders (Brock 1991).

MAWNAN SMITH (SW7728, SW7729): Three survey reports in 1993 and 1994, well spaced out within this large village. Two previous reports, the earliest in 1981 appears in Turk (1985). The species present is confirmed as *A. inermis* from a clear photograph accompanying one report. The origin of the colony is uncertain, and, as the earliest report predates the 1982 countywide distribution, may have come from Treseder's plants. One possibility which merits some attention is the proximity of this site to Budock Vean, Glendurgan, and Helford Passage (*q.v.*). Although most stick insect colonies are generally very localised, this whole area may prove to be one widespread colony. Field research in the local countryside will be needed to verify this.

MEVAGISSEY (SX0144, SX0145): Another new location. Six survey reports in 1993 and 1994 show this colony to be widespread in the village. The species present is confirmed as *A. inermis* from a clear photo supplied with one report. The origin of the colony is unclear. The first reports were centred around the school, where the headmistress confirmed that insects have regularly been brought to the school over the last 10 years. This suggested the 1982 countywide distribution as the source. However, the latest report confirms the species was present in 1981, and in a

neighbouring garden from 1977. In this case, they probably originated from Treseder's plants introduced into a local garden.

**PENRYN (SX7734, SX7735):** Another new location. Four survey reports in 1993 and 1994. The origin of this colony goes back to 1981, when *A. inermis* insects found on a Banksian rose in a Falmouth (*q.v.*) garden were removed and given to a Penryn butterfly breeder. She bred them successfully, and distributed many insects countywide in 1982. Those she could not give away, she released in her garden; although Turk (1985) records that in March 1984 she had no evidence they survived, they clearly did. Three of the reports are clustered around this garden, and one from near the school. This latter report probably came from discarded school insects, undoubtedly from the 1982 distribution. The species present is definitely *A. inermis*.

**PORT ISAAC & PORT GAVERNE (SW9980, SX0080):** Many survey reports in 1993 and 1994 show this colony is widespread throughout the two adjacent villages. There are two previous reports (Brock, 1991 and Lee, 1993). The Port Isaac colony originated from discarded school insects from the 1982 distribution. Although Port Gaverne is only about 500 metres from the Port Isaac colony, it was puzzling that, despite intensive searching, no insects could be located on the bramble covered slope between the two villages. Further, Port Gaverne has a tiny resident population with no children, so the most common mode of spread by children seemed unlikely. Since my 1993 report, I have confirmed that the colony in Port Gaverne pre-dates that in Port Isaac by at least 10 years. One gardener recently reported to me that he has seen stick insects since the early 1970s. As his garden has many plants acquired from Treseder's nursery over the years, this is undoubtedly the source of Port Gaverne's insect colony, and another incidence of more than one introduction at virtually the same site. The species present in both locations was confirmed as *A. inermis* (see Lee, 1993).

**PROBUS (SW9047):** Another new colony. Five survey reports in 1993 and 1994, all clustered together. The species was reliably confirmed as *A. inermis* by John Humphreys. The origin of the site was clearly from plants supplied by Treseder's, as they laid out a large garden here in 1969, and insects have been seen there for "many years".

**St IVES:** No survey reports, but one inconclusive 1990 report of small juvenile stick insects (Haes, 1991). My experience has shown that when people find stick insects, they invariably take them to local schools for the children to see. Having contacted the head teachers of both the infants and junior school, they have put up information on our insects, and asked the children to report any sightings. Although two children said they had seen stick insects, none were forthcoming, and nothing further has been heard in the last 15 months. In these circumstances, I conclude that the 1990 report was discarded Laboratory sticks.

**St JUST-IN-ROSELAND (SW8535):** Another new location. One 1994 survey report, where insects have been seen for about five years in the garden. From the owners description, the species was *A. geisovii*. This site is only a few miles from St Mawes (*q.v.*), where *A. geisovii* is widespread, and they were probably brought back from St Mawes by local children who go to school there.

**St MAWES (SW8432, SW8433, SW8532, SW8533):** Eleven survey reports throughout the town in 1993, 1994 and into 1995. Ten previous reports, the earliest in *West Briton* (1969). The species present is certainly *A. geisovii*, and *A. inermis* may be present in one garden at least. Several reports spoke of insects without spines, in one garden such insects have been seen since 1960 when the owner first moved in, but these may just be *A. geisovii* with few spines. Certainly when Eve

Bysouth did her St Mawes survey (Bysouth, 1990), she never found *A. inermis*, and several of her *A. geisovii* reports came from gardens in the same road as this 1960 report. Two other alien species *Acanthoxyla prasina*, and *Bacillus rossius* (Rossi) are also present in small numbers at one garden site, having survived outdoors for at least one winter. *A. geisovii* was deliberately introduced into the Riviera Gardens c. 1959 using insects obtained from Tresco (*q.v.*). Incidentally, this was on the other side of town from the 1960 report - were there two introductions? *A. inermis* was introduced into the one garden by accidental spillage of eggs, as were the two other species.

TRESCO (SV8914, SV8915): One survey report in 1993. Many previous reports, both for *A. geisovii*, and *C. hookeri*. The earliest report for *A. geisovii* is from 1943 (Uvarov, 1944), although this colony was certainly pre-war, and may go back to 1907 when a consignment of New Zealand plants was imported onto the island. Some of these plants were sent to Paignton, Devon (*q.v.*), where *A. geisovii* was recorded the following year (Kirby, 1910), the first British record. The earliest for *C. hookeri* is autumn 1949 (Uvarov, 1950). Non-prickly stick insects had been seen previously, so *C. hookeri* was present in earlier years, perhaps contemporaneous with *A. geisovii*. Reports of *A. geisovii* have come from several sites, and it is probably quite widespread on the island. *C. hookeri* is found in just one location, the only site outside New Zealand. For both *A. geisovii* and *C. hookeri*, the origin is undoubtedly plants imported direct from New Zealand.

TRURO (SW8044, SW8244, SW8245, SW8345): 10 survey reports from several parts of the town in 1993, 1994 and into 1995. There are two previous reports, the earliest in 1979 in *West Briton* (1981a), although it is now known that this was one of the earliest UK locations with insects being present since the 1920s, and probably earlier. Species present is undoubtedly *A. inermis*, although this has not actually been confirmed. The origin of the main colony of insects was from plants imported from New Zealand by Treseder's to their Truro nursery. Three of the survey reports were actually from the new houses built on the nursery site, and nine out of all twelve reports were within a few hundred metres of this site. The other three reports were from separate parts of Truro, and probably originated by children taking them home from the main site.

TYWARDREATH (SX0754, SX0854): Another new location. Three survey reports in 1994, with one person having seen them since 1991. Species not confirmed, but most likely *A. inermis*. All three reports are within a few hundred metres of the local primary school, and I expect this was the source, probably via discarded insects from the 1982 distribution.

VERYAN (SW9139): Two survey reports in 1993 and 1994 from the same close. There are two previous reports, the earliest from 1985 (Bysouth, 1985). Species present is confirmed as *A. geisovii* from a clear photo supplied with one report. This location is only a few miles from St Mawes (*q.v.*), and the origin of the colony is most likely from local children attending school in St Mawes and bringing them back.

VERYAN GREEN (SW9139, SW9239): Another new location. Three survey reports in 1993 and 1994, all within a hundred metres of each other. The species present is confirmed as *A. inermis* from a clear photo sent with one report. This small hamlet is only a few hundred metres from Veryan, but we find a separate colony of a different species, yet another incidence of more than one introduction at adjacent sites.



**(b) Devon**

ERMINGTON (SX6353): Another new location. Two survey reports in 1994, a few hundred metres apart. First found in one garden in 1993, and again in 1994. The second garden has had them for about 10 years. Species not confirmed, but on the basis of the owners description of small spines on thorax, most likely *A. geisovii*. This site is only two miles south of Ivybridge (*q.v.*), and the insects probably arrived here via local children attending school in Ivybridge and bringing them back.

GALMPTON (SX8856, SX8956): Three survey reports in 1994, spread around the village. The teacher at the local school confirmed that they get large numbers brought in every year. The earliest previous record (Marshall & Haes, 1988) states they have been known here since the early 1970s. Species confirmed as *A. geisovii* by a clear photo with one report. The site is only a few miles south of Paignton (*q.v.*), and this colony probably originated via local children attending school in Paignton and bringing them back.

IVYBRIDGE (SX6356): No survey reports. There is very little information on this location, with Brock 1991 stating "Ivybridge - also noted in the 1980s". Chris Haes (pers. comm.) advised me that the record was from a gardener in Ivybridge, who sent a specimen he found to the British Museum (Natural History) in about 1985. The species was confirmed as *A. geisovii*. Despite the absence of any survey reports, there is no reason to doubt a small colony is still surviving, particularly as a report was received from Ermington (*q.v.*) only a few miles south of Ivybridge. With so little information on the Ivybridge colony, it is difficult to be certain how the colony originated, but transfer as eggs or insects on plants from one of the Torbay colonies must be the most likely source.

PAIGNTON (SX8859): One 1994 survey report only, from a garden backing onto the Botanical Gardens, where there has been a long established colony. This location was the earliest UK stick insect site, with insects being first recorded here in 1908 (Kirby, 1910). C.F. Rivers (1953), who felt that Kirby's report was originally thought to be the outcome of some practical joke, rediscovered the species in 1952 at the very same house where they were living on a large Japanese Cedar (*Cryptomeria japonica*). Interestingly, when Colin Bath, Curator Paignton Zoo, undertook a survey of these insects in 1985, he received a letter from the family who used to live at that house, but had moved to London some years earlier. They remembered Mr Rivers' 1952 visit, and became quite fond of their "tenants at the bottom of the garden" (Brock, personal communication). The species has been confirmed as *A. geisovii*. The colony originated from a consignment of New Zealand plants imported direct onto Tresco, Cornwall (*q.v.*) in 1907, part of which was transshipped to Paignton Botanical Gardens the same year.

TORQUAY (SX9064): No survey reports. A report in the *Paignton Observer* on 2nd January 1947 of an unusual blue-green specimen found at Torbay Mill is probably the earliest record at this site. That record was confirmed as *A. geisovii* (then *Macracantha geisovii*) by Herbert Whitley, who owned the Paignton Zoological and Botanical Gardens - the original UK stick insect location. Brock (1991) also records the species as frequent in Torquay Palm House in the 1960s until it was exterminated by insecticide, but a stock was found in a nearby garden in 1985. The origin of the Palm House colony was probably from insects or eggs on plants from Paignton Botanical Gardens. Despite the absence of survey reports, there is no reason to doubt a small colony still survives here.

**(c) Eire**

BAY OF KENMARE, COUNTY KERRY: One 1994 survey report from Claddananure. This location is some 15 miles from the Island of Rossdohan, Viscount Mersey's Estate opposite the island, and nearby Kilmakillage Harbour, where stick insects have been known since the 1960s. The species here was long thought to be *C. hookeri* (as were most British "smooth" stick insects until 1985), but Michael Kemp confirmed the species was *A. inermis* in 1993. Michael's own survey (in prep.) of the area suggests the insects are widely distributed in the Bay of Kenmare. The origin of this colony, surprisingly, seems to go back to Treseder's Truro (*q.v.*) nursery in Cornwall. Neil Treseder stated that his Victorian grandfather supplied many New Zealand plants, not only to the large Cornish gardens, but also to estates in western Ireland and the west coast of Scotland. (Stick insects have never been recorded from Scotland, and correspondence with the head gardener at Inverewe, one garden supplied by Treseder's, confirms they have never been recorded there.)

**(d) Other stick insect reports**

BASINGSTOKE, HANTS: A stick insect seen in a garden some years ago.

BODMIN, CORNWALL: March 1995, single 3" (7.5cm) brown insect in garden, identified as *Carausius morosus* (Sinéty).

CAMELFORD, CORNWALL: Large numbers of nymphs seen in one garden by a biologist about 10 years ago.

COVENTRY, WARCS: One person reported that he used to catch them regularly before the war in hedgerows.

FARNHAM, SURREY: Four nymphs of Macleay's Spectre [*Extatosoma tiaratum* (Macleay)] and Jungle Nymph [*Heteropteryx dilatata* (Parkinson)] found on a rose bush in July 1994. Identified by Paul Brock.

GREAT MISSENDEN, BUCKS: Several found on a rose bush *c.* 1940.

HUDDERSFIELD, YORKS: 2½-3" (6.5-7.5cm) long insects seen over several years, last seen *c.* 1988.

IPSWICH, SUFFOLK: Two reports of many stick insects on roses in an ornamental garden during August 1994. Confirmed as *Carausius morosus* by Howard Mendel, Curator Ipswich Museum, who also reported several other sightings in the town during the hot summer.

KESWICK, CUMBRIA: 1½-2" (4-5cm) green stick insect fell onto garden path in August 1994.

LLANTWIT MAJOR, SOUTH WALES: Single insect found in garden in 1985.

PLYMPTON, DEVON: Several 1" (2.5cm) nymphs found on a bramble patch in Autumn 1994. The finder, a former Exotic Entomology Group member, reared them to adulthood, and to nymphs of the next generation. Nymphs confirmed as *Bacillus rossius* by Paul Brock. A further report of *B. rossius* from this location was also received by Chris Haes. As this species is widespread in culture, these were almost certainly discarded stock, rather than an established colony, although this species may survive as a short lived colony in favoured sites (see St Mawes).

PRESTON, LANCS: A small "stick-like" insect found in garden July 1994.

RAYLEIGH, ESSEX: Two stick insects 2½-3" (6.5-7.5cm) long found on cotoneaster in summer 1992.

SAMPFORD COURTNEY, DEVON: Saw stick insects in her elderly neighbour's garden in May 1993, and had been seen there previously. There is a possibility that this may be a New Zealand species, but in the absence of confirmation it is treated as discards.

SOLIHULL, WARCS: 1½" (4cm) stick insect seen on a Basil plant in summer 1994.

WEMBLEY, MIDDX: Stick insects frequently found in the garden, mainly on roses, about 20 years ago, before moving to Sheffield. Usually 1-1½" (2.5-4cm) long only.

WEST GRAFTON, WILTS: One person reported finding them in the 1950s on a bramble patch.



A search by Paul Brock at the exact location revealed nothing.

All those people who made these one off reports have been asked to keep an eye out in future years, so more information may come to light for a few of the locations, but most will be discarded Lab-sticks.

### Footnote

In Professor Salmon's excellent book *The Stick Insects of New Zealand* (1992), he downgrades various *Acanthoxyla* species, including *A. geisovii* and *A. inermis*, to subspecies of *A. prasina* (Westwood), so the "British" species would be *A. prasina geisovii* and *A. prasina inermis*.

### References

- Brock, P.D.** (1987) A third New Zealand stick insect (Phasmatodea) established in the British Isles, with notes on the other species, including a correction. In Mazzini M & Scali V (Eds) *1st International Symposium on Stick Insects*. University of Sienna (1985): 125-132.
- Brock, P.D.** (1991) *Stick Insects of Britain, Europe and the Mediterranean*. Fitzgerald Publishing, London.
- Bysouth, E.** (1985) Article: No sex please, we're Stick Insects. *Roseland Magazine*, October 1985.
- Bysouth, E.** (1990) Survey on *Acanthoxyla geisovii* in St Mawes 1985. (Appendix to Haes 1990).
- Haes, E.C.M.** (1990) *Cornish Biological Records 12. Grasshoppers and Related Insects in Cornwall*. Cornish Biological Records Unit, Redruth.
- Haes, E.C.M.** (1991) Grasshoppers and their allies: Additions to Cornish Biological Records 12. *Zoological Cornwall & the Isles of Scilly*, 1: 4-5.
- Haes, E.C.M.** (1993) Grasshoppers and their allies, 1991 & 1992. *Zoological Cornwall & the Isles of Scilly*, 2: 6-8.
- Harman, A.J.E.** (1993) Introduced New Zealand phasmids thriving out of doors in October at Helston, Cornwall. *Phasmid Study Group Newsletter*, 57: 5.
- Kirby, W. F.** (1910) An undetermined species of Stick-insect found in Devonshire. *Zoologist*, (4)14: 197-198.
- Lee, M.** (1993) A survey of the distribution of the Unarmed Stick Insect *Acanthoxyla inermis* in Port Gaverne and Port Isaac, North Cornwall in 1992. *Phasmid Studies*, 2(1): 25-32.
- Marshall, J.A. & Haes, E.C.M.** (1988) *Grasshoppers and Allied Insects of Great Britain and Ireland*. Harley Books, Colchester.
- Raabe, M.** (1983) *Endocrinology in Insects* [see Chapter 2: *Chromatophotropic Factors* & Chapter 3: *Pigment Metabolism*]. Alan R. Liss Inc., New York.
- Rivers, C.F.** (1953) A New Zealand Stick Insect in South Devon. *Bulletin of the Amateur Entomologists' Society*, 12: 92-94.
- Salmon, J.T.** (1992) *The Stick Insects of New Zealand*. Reed Books, Auckland.
- Turk, S.M.** (1985) Two New Zealand stick-insects naturalised in mainland Cornwall. *Entomologist's Record and Journal of Variation*, 97: 129-130.
- Uvarov, B.P.** (1944) A New Zealand Phasmid (Orthoptera) established in the British Isles. *Proceedings of the Royal Entomological Society of London*, B.13: 94-96.
- Uvarov, B.P.** (1950) A second New Zealand Stick Insect (Phasmatodea) established in the British Isles. *Proceedings of the Royal Entomological Society of London*, B.19: 174-175.
- West Briton** (1969) Article: *That Stick Insect; No threat to Gardens*, 9/10/69.
- West Briton** (1981a) *Nature Scene* column by Stella Turk, 3/9/81.
- West Briton** (1981b) Letter from Miss R V Wright, 17/9/81.
- West Briton** (1987) Article: *Down in the Garden 'Sticks' stirred*, 27/8/87.